



FACT SHEET

UNITED STATES AIR FORCE

Quick Reaction Launch Vehicle Program

The U.S. Air Force has developed a program to launch rockets on sub-orbital flights in support of Department of Defense (DoD) operations and exercises in the Alaskan Theater. The Quick Reaction Launch Vehicle (QRLV) program will assemble launch vehicles and fly them within one year of a DoD request. The Air Force anticipates the launches will support the Alaskan Command (ALCOM) Northern Edge exercise held annually in March.

The QRLV program began in Fiscal Year (FY) 2001, and consists of launching up to eight sub-orbital vehicles (one QRLV per year) until FY 2008. In addition to supporting DoD operations and exercises, the QRLV launches will also be used for various experiments, ranging from measuring atmospheric attributes to demonstrating new technologies.

Depending on the specific mission, each QRLV sub-orbital launch vehicle will consist of either a single-stage or a two-stage vehicle. Likely vehicle configurations are various single- or two-stage combinations of the following rocket motors: Minuteman I stage 2 (M56), Minuteman II/III stage 2 (SR19), Minuteman I/II stage 3 (M57) and Delta/Atlas strap-on (Castor IV).

The Air Force Space and Missile Systems Center, Rocket Systems Launch Program (SMC/TEB), at Kirtland Air Force Base, New Mexico is the managing office for the QRLV program.

QRLV-1 Mission

For the QRLV-1 mission, the Air Force awarded contracts to the Orbital Sciences Corporation (OSC) to integrate the launch vehicle, and to the Alaska Aerospace Development Corporation (AADC) for lease of launch facilities at the Kodiak Launch Complex (KLC) located on the Narrow Cape peninsula of Kodiak Island, Alaska.

The primary objective of the QRLV-1 mission is to provide a realistic Theater Ballistic Missile scenario in support of the ALCOM Northern Edge 2001 (NE01) exercise. NE01 participants will utilize the launch to exercise Ballistic Missile Warning and Battle Management, Command, Control and Communications (BMC³) capabilities, test planning scenarios and execute defensive strategies during an actual ballistic missile flight.

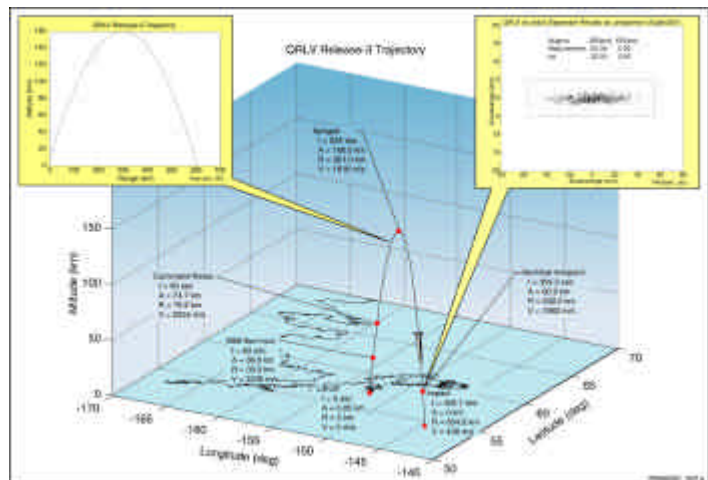
As secondary objectives, the QRLV-1 vehicle will host a suite of experiments, including a Global Positioning System (GPS) experiment, two U.S. Army Space and Missile Defense Command (SMDC) battery experiments, and a Space Integrated GPS/INS (SIGI) missile guidance unit demonstration. An Air Force Research Laboratory (AFRL) mobile Flight Termination System (FTS) will also be integrated and tested for the first time during the QRLV-1 launch.

Additionally, since the QRLV-1 vehicle is able to provide an appropriate trajectory for the Navy Theater Wide (NTW) Program, the U.S. Navy will utilize the QRLV-1 launch as a window of opportunity to exercise tracking capabilities and computer-simulated intercept scenarios.

Flight Trajectory

QRLV-1 will be a single-stage launch vehicle, utilizing an M56 rocket motor. The M56 is a four-nozzle solid propellant rocket motor with a titanium case. It uses thrust vector control for steering and stabilization. It is 12.96 feet in length, 3.71 feet in diameter and 11,400 pounds in weight. The motor contains approximately 10,372 pounds of class 1.3 solid propellant.

The entire launch vehicle will be 360 inches long and weigh approximately 14,100 pounds at liftoff. A southeasterly trajectory, along an azimuth of 120 degrees, will be flown. Apogee will be 160 km, and ocean impact will occur 605 km down range.



Mission Safety

The Naval Air Warfare Center, Weapons Division (NAWCWD) from Pt. Mugu, California is the lead Range Safety organization for the QRLV-1 mission. The Space & Missile Systems Center, Test Integration & Launch Division (Detachment 9) from Vandenberg Air Force Base, California, will assist NAWCWD in enforcing ground safety by supervising hazardous operations during vehicle buildup and pre-launch testing. Explosive Ordnance Disposal (EOD) support will be provided by the Air Force 75th Air Base Wing, Civil Engineer Group, Explosive Ordnance Disposal Division from Hill Air Force Base, Utah.

NAWCWD has established a safety requirement for a 385 ft radius clear zone around the QRLV-1 launch vehicle at all times while at KLC. For the launch, a 6,000 ft radius clear zone is required to ensure public safety and the safety of the launch team.

NAWCWD provides a mobile Range Safety system that includes telemetry, communications, command, control, destruct, and computer display equipment. A Missile Flight Safety Officer (MFSO) coordinates all flight safety responsibilities from the KLC ground station. These activities include termination of the flight in the event of an anomaly through the use of the 1,000-watt command-destruct transmission system. Backing up the ground system is a Navy NP-3D Range Area Safety Aircraft (RASA) with the capability to independently function as a flight tracking and termination system.

During the flight, the MFSO ensures the rocket remains within the approved flight corridor. Should the computed Instantaneous Impact Point (IIP) of the launch vehicle indicate a potential deviation outside the approved corridor, Range Safety will terminate the flight via the command-destruct transmission systems.

The offshore area near KLC and in the down range ocean impact area are cleared of ships prior to the flight with assistance from the U.S. Coast Guard. Additionally, the airspace for the flight corridor is similarly cleared and restricted by Federal Aviation Administration (FAA) authorities and flight controllers. Notice to Airmen (NOTAM) and Notice to Mariners (NOTMAR) will be issued.

Environmental Assessment

The Air Force recently completed an Environmental Assessment (EA) of the potential environmental consequences of the QRLV program. The Air Force made its QRLV Draft EA and Draft Finding of No Significant Impact (FONSI) available for public review and comment from November 2 through December 1, 2000. The final QRLV EA and FONSI, dated January 2001, are available online at SMC Environmental Management site (<http://ax.laafb.af.mil/axf/>) and locally at the Kodiak High School, Kodiak College and Kodiak Public libraries.

The Air Force previously prepared an EA for the two successful atmospheric interceptor technology (ait) launches which occurred from KLC. In coordination with the National Marine Fisheries Service (NMFS), the Air Force conducted noise monitoring of ait-1 and ait-2 from KLC. The monitoring was conducted primarily to assess the effects of the launches on the endangered Steller sea lion, which utilizes Ugak Island, located approximately 3 miles southeast of KLC, as a haulout from July to September. The QRLV flights are anticipated to occur during March of each year in support of the ALCOM Northern Edge exercise. During this time, the endangered Steller sea lion is not expected to be present on Ugak Island.

The Air Force has also complied with the requirements of Essential Fish Habitat (EFH) legislation as mandated by the 1996 amendments to the Magnuson-Stevens Fishery Conservation and Management Act. Other pertinent National Environmental Protection Act (NEPA) documents include an initial EA for construction and operation of KLC prepared by AADC and the FAA in June 1996, which evaluated use of the site for up to nine launches per year over the anticipated 22 years of operation.

Additional Information

The U.S. Army Space and Missile Defense Command (SMDC) North Pacific Targets program, which uses the Strategic Target System (STARS) launch vehicle, is also sponsoring activities at KLC. The North Pacific Targets program is completely unrelated to the Air Force QRLV program. The SMDC documents may be viewed at <http://www.huntsville.edaw.com/northpacific/>

For more information on the QRLV program, please contact the SMC Public Affairs office at (310) 363-0030.



Map of Kodiak Island